

REMARKS

The claims have been amended to more clearly define the invention as disclosed in the written description. In particular, the claims have been amended for clarity.

Applicants believe that the above changes answer the Examiner's objection to claims 6, 8, 9 and 11, and the Examiner's 35 U.S.C. 112, paragraph 2, rejection of claim 12, and respectfully request withdrawal thereof.

The Examiner has rejected claims 1-11 and 14-16 under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 6,154,545 to Kohut et al. The Examiner has further rejected claims 13 and 17-20 under 35 U.S.C. 103(a) as being unpatentable over Kohut et al. in view of U.S. Patent 4,095,049 to Gerzon.

The Kohut et al. patent discloses a method and apparatus for two channels of sound having directional cues, in which an N-channel audio signal is encoded into left and right signals.

As noted in MPEP §2131, it is well-founded that "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Further, "The identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). The elements must be arranged as required by the claim, but this is not an *ipsissimis verbis* test, i.e., identity of

terminology is not required. *In re Bond*, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990).

Claim 1 includes a "method of processing a stereo signal obtained from an encoder, which encoder encodes an N-channel audio signal into left and right signals (L_0 ; R_0) and spatial parameters (P), the method comprising:

processing said left and right signals in order to provide processed signals (L_{0w} ; R_{0w}), in which said processing is controlled in dependence of said spatial parameters (P)."

The Examiner has indicated that Kohut et al. discloses an "encoder encodes an N-channel audio signal (fig. 1A #115) into left and right signals (fig. 1A "LT, RT") and spatial parameters (fig. 2 #220, col. 5 ln.44-67, col.6 ln. 1-18)".

Applicants submit that the Examiner is mistaken. In particular, while the encoder 100 of Kohut et al. encodes the N-channel audio signal into left and right signals, the spatial parameters derived in the processing of the left and right signals are used to form the left and right signals. In particular, the portion of Kohut et al. noted by the Examiner indicates how the spatial parameters, i.e., the HRTF's are applied to the input channels of the audio signal in order to generate the left and right signals.

With regard to the claim 1 limitation "processing said left and right signals in order to provide processed signals (L_{0w} ; R_{0w}), in which said processing is controlled in dependence of said

spatial parameters (P)", the Examiner refers to col. 4, lines 55-59 and col. 8, lines 16-40.

Applicants submit that the Examiner is mistaken. In particular, Kohut et al., at col. 4, lines 55-59, states:

"Head related transfer functions (HRTFs) were developed to correspond to spherical directions around the head of the listener. At step 215, HRTFs are applied to the input channels. The HRTFs are applied to sound signals to provide audible directional cues in the sound signals. Preferably, in one embodiment, the HRTFs are modified to factor out the frequency response of the HRTF corresponding to one of the front channels."

As clearly indicated in this section, the HRTFs are applied to the input channels, not the resulting left and right channels.

Further, Kohut et al., at col. 8, lines 16-40 states:

"The modified left surround and right surround signals may be combined with front signals that are modified or unmodified. These embodiments are illustrated in FIGS. 4 and 5. In particular, FIG. 4 illustrates one embodiment in which modified HRTFs are applied to the front signals. The modified HRTFs are generated by subtracting the HRTF of the selected front signal from the HRTF corresponding to the input channel. In addition, level control time delay adjustment circuits process the signal directed to the output channel opposite to the side of the input channel. For example, circuit 405 is applied to the left signal that is output to the right total (RT) channel 410. In addition, compensation delays, e.g., 450, 455, 460, 465, 470, 475, are added where needed to maintain proper timing relationships among signals.

"The left surround (LS) and right surround (RS) inputs are processed in a manner similarly to that described with respect to FIG. 3. The subwoofer signal 440 may be processed through a modified HRTF; alternately, as is illustrated in FIG. 4, the subwoofer signal may be processed through a low pass filter 445, preferably with a cutoff frequency set at 250 KHz, for input to the LT and RT channels. The modified front and rear (surround) signals are output to combination

circuits 420, 425 and are combined into two channels,
LT 430 and RT 410."

Applicants submit that it should be clear from the above that Kohut et al. is applying the HRTF's and modified HRTF's to the input multi-channel signal as opposed to the resultant left and right signals.

The Gerzon patent discloses a non-rotationally-symmetric surround-sound encoding system, in which the encoding matrix is invertible for effecting a reverse processing of the encoded signals. However, Applicants submit that Gerzon does not supply that which is missing from Kohut et al., i.e., a "method of processing a stereo signal obtained from an encoder, which encoder encodes an N-channel audio signal into left and right signals (L_0 ; R_0) and spatial parameters (P), the method comprising:

processing said left and right signals in order to provide processed signals (L_{0W} ; R_{0W}), in which said processing is controlled in dependence of said spatial parameters (P)."

In view of the above, Applicants believe that the subject invention, as claimed, is neither anticipated nor rendered obvious by the prior art, either individually or collectively, and as such, is patentable thereover.

Applicants believe that this application, containing claims 1-20, is now in condition for allowance and such action is respectfully requested.

Respectfully submitted,

by /Edward W. Goodman/
Edward W. Goodman, Reg. 28,613
Attorney
Tel.: 914-333-9611